

We are a people of Choices
Susan Walker, Esq., Kanouse & Walker, 2000

We Are a People of Choices

A legal model for the implementation of Event Data Recorder (EDR) technology was presented by representatives from Florida Atlantic University, including Susan Walker, Esq. The vision of the model retains all rights with the owner of the motor vehicle. The decision as to whether to install the EDR technology and the ownership of the data is vested with the owner of the vehicle.

It is envisioned that the data would be collected in hardware located in the motor vehicle and then in an encrypted and encoded format be wirelessly transmitted to a central data repository. The transmission of the data would occur on a regular basis and contemporaneously with an "event." No data would remain in the vehicle after an event. The central repository would be an independent agency.

With respect to airplane data the information could be collected by the Flight Operations Quality Assurance (FOQA). With respect to data transmitted from motor vehicles and vessels the central repository entity is yet to be determined. The data generated would be identified by the "vehicle identification number" (VIN #), which is given to all vehicles. The personal identity would remain confidential, unless permission was given by the owner of the information to use such data.

The central repository would be free to use the cumulative form of any data, which could be available to the public, car manufacturers, insurance companies and others. The personal information would be treated as "privileged" information, a concept similar to the patient/doctor privilege. The privilege may be "waived" by its owner, and when the privilege is waived the information may be released.

In civil court proceedings (which include individuals seeking monetary damages), the privilege could be absolute or qualified. In criminal court proceedings (which involve the state seeking criminal sanctions against an individual), the data is protected and the individual is afforded the constitutional protections including the Fifth Amendment right against self-incrimination. So too, the Fourth Amendment rights of the individual against unreasonable search and seizure would be afforded as to the collection of data.

The delicate balance between the need to save lives by obtaining and prudently using critical data and the need to respect the reasonable expectations of privacy, constitutional safeguards, and due process, must be preserved. The model envisions that personal choices be preserved for the owner of the vehicle. The model contemplates a central repository of data, where release of information is only by consent. (For example, a credit bureau in which credit history is kept and remains personal, but may be released with consent.)

An example of the model could be the following:

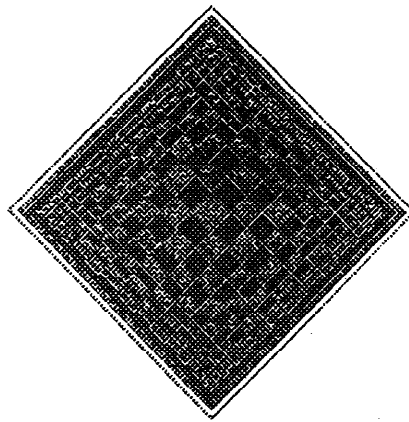
Vehicle 1 is a private passenger vehicle in which the owner chose to have an EDR installed to take advantage of a monetary insurance incentive in the form of a premium deduction. Vehicle 2 is a commercial/fleet vehicle in which the owner/company (after negotiations with its employees) chose to install an EDR to better track its fleet's operations. Vehicle 3 is a "common carrier" in which the owner was under the authority of a regulatory agency which decided that EDR should be installed in all its vehicles for the protection of the public safety. If an "event" occurred, all the drivers would be afforded constitutional protections and due process safeguards would come into play. However, the owner of the vehicle could waive the confidential nature or use the data if he/she so chooses.

Legal Framework for the Implementation of EDR Technology

Susan Walker, Esq.

Kanouse & Walker

February 15, 2001



Guiding You Through the Legal Maze.™

Legal Framework for the Implementation of EDR Technology

Dated: February 15, 2001

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One Boca Place
Suite 324 Atrium, PMB #1070
2255 Glades Road
Boca Raton, Florida 33431**

Objective

The legal objective is to provide a workable framework for the use of EDR technology that balances the following principles:

- We are a people of choices and freedoms;
- The underlying constitutional protections (such as freedom from unreasonable searches and seizures, Fifth Amendment rights against self-incrimination, privacy expectations, and due process safeguards) must be respected; and
- The objective of the implementation of EDR technology will be to save lives.

Model

1. THE OWNER OF THE VEHICLE MAKES THE DECISION TO INSTALL THE EDR.

- a. Mass Transit/ "Common Carrier" – regulatory agency decision
- b. Commercial/Fleet Vehicle – the company decides and negotiates its decision with its employees
- c. Municipal Vehicle- municipality decides and negotiates its decision with its drivers
- d. Independent Trucker- driver decides
- e. Personal Vehicle- personal choice (An exception may exist if there is court ordered installation of an EDR for a chronic traffic offender, after due process proceedings.)

2. EDR DATA IS TRANSMITTED TO AN INDEPENDENT AGENCY WHICH COLLECTS DATA AS TO CLASS OF VEHICLE, SUCH AS AIRPLANE OR MOTOR VEHICLE.

- a. Airplane information to be collected by the Flight Operations Quality Assurance (FOQA).
- b. Motor vehicle information to be collected by an entity to be determined.
- c. Vessel information to be collected by an entity to be determined.

3. EDR DATA IS TO BE IDENTIFIED BY VEHICLE IDENTIFICATION NUMBER (VIN #) OR VESSEL NUMBER.

4. THE EDR DATA IS OWNED BY THE OWNER OF THE VEHICLE.

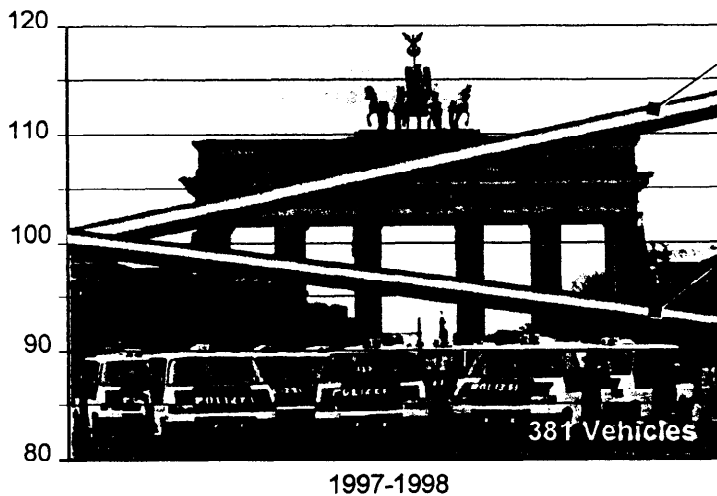
- a. The data in its cumulative form may be used by the independent agency or may be released in its cumulative form to interested entities.
- b. The data **IS PRIVILEGED IN A CIVIL PROCEEDING AND THE PRIVILEGE MAY BE WAIVED BY THE OWNER OF THE PRIVILEGE** . (The privileges may be absolute or qualified depending upon the situation.)
- c. The data **IS PROTECTED IN A CRIMINAL PROCEEDING AND THE CONSTITUTIONAL PROTECTIONS MAY ONLY BE WAIVED BY THE ACCUSED.** (The Fifth Amendment right against self-incrimination is absolutely preserved. Immunity may be granted consistent with prosecutorial guidelines.)

5. INSURANCE COMPANIES/ CAR MANUFACTURERS MAY USE THE DATA COLLECTED IN THE AGGREGATE.

The owner of the vehicle may elect to release his or her information to its insurance company. The marketplace factors of the personal choices of owners/drivers would decide participation. For example, an insurance discount could be offered to a vehicle owner who elects to install an EDR in his or her vehicle.

VDO Kienzle
Slides on their UDS EDR System

For the Fleet (Example: the Berlin Police Department)

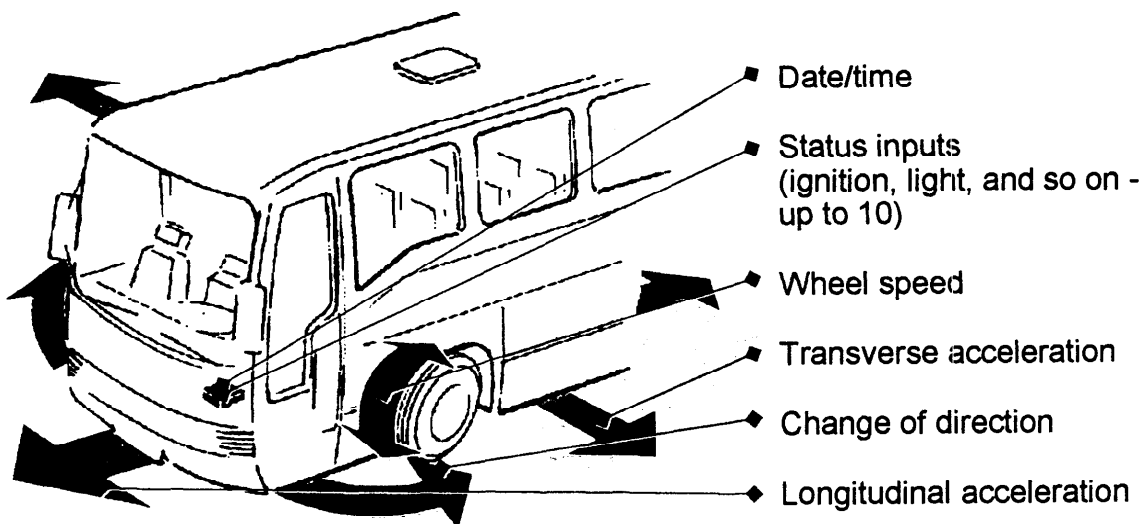


Damage cases involving vehicles not equipped with the UDS (+13.1%)

Damage cases involving vehicles equipped with the UDS (-8.4%)

Decrease in direct comparison: approx. 20%

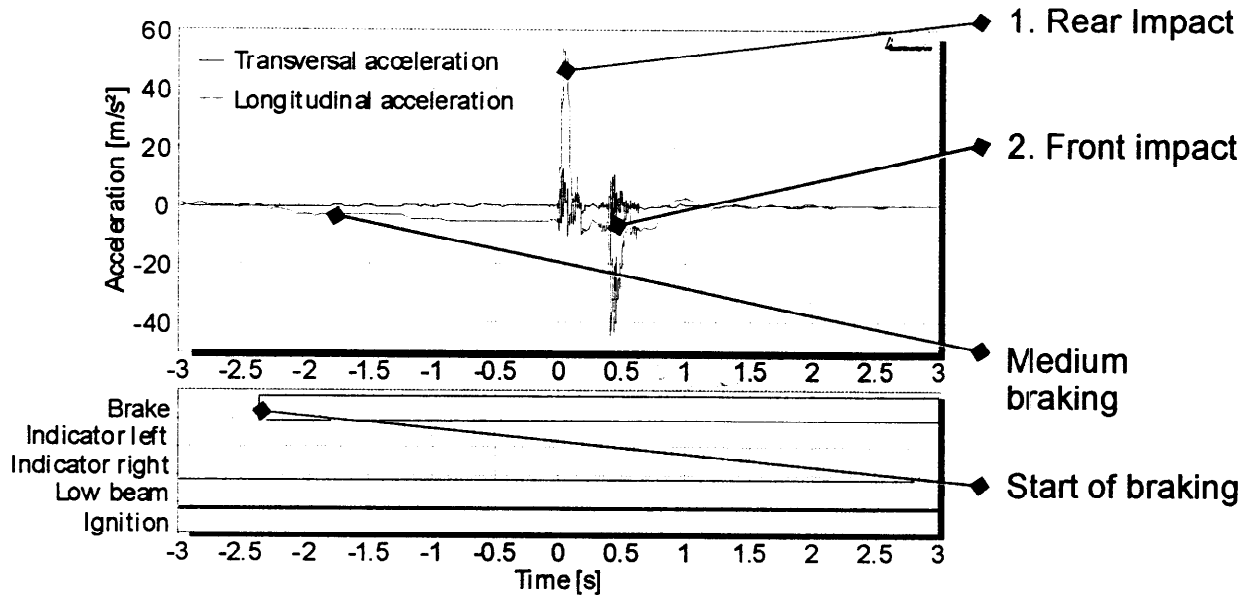
Sensors and Status Inputs



Example serial collision

VDO KIENZLE

Information in detail



UDS20_001001 6 10 2000 Kest K43V1/PRO



Benefits

VDO KIENZLE

For the fleet

- Economic benefits
- Legal security for the company and its employees
Transparency in the investigation of damages
Preventive effect on driving style
- Image
- System for fleet, risk, and accident management

UDS20_001001 6 10 2000 Kest K43V1/PRO



Kienzle UDS



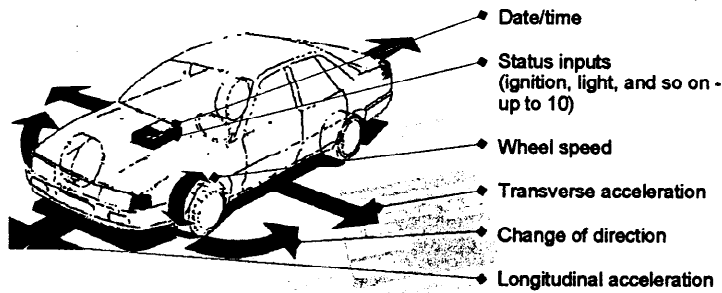
**Increase Safety
Reduce Fleet Costs**

UDS 20 20 1001 1 10 2000 Rev. 1000000000



Sensors and Status Inputs

VDO KIENZLE

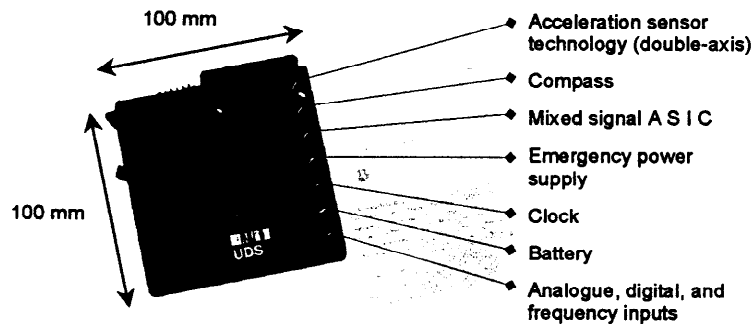


UDS 20 20 1001 1 10 2000 Rev. 1000000000



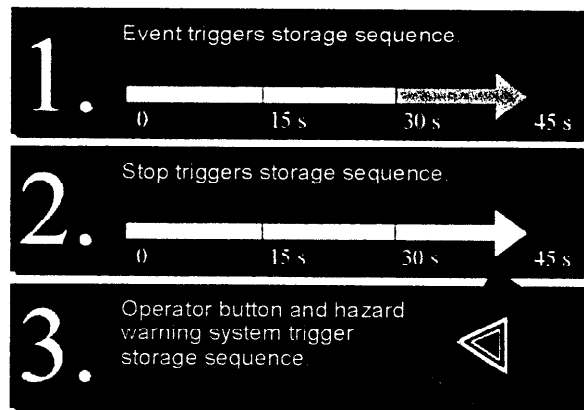
Structure

VDO KIENZLE

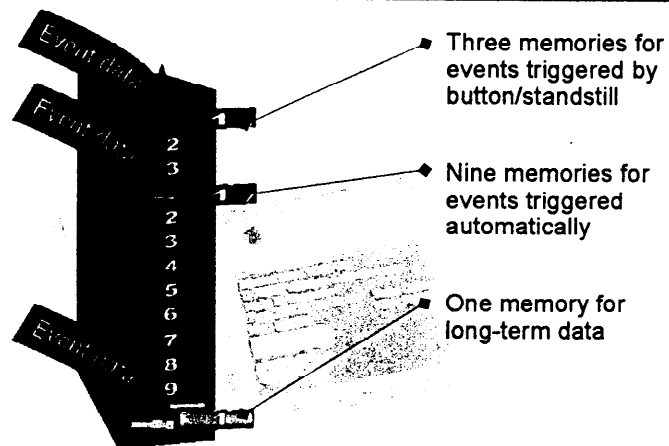


UDS 20 20 1001 1 10 2000 Rev. 1000000000





VPE30_001001 6.10.2006 Kienzle H40V1P/PRO



UD 538_001001 6.10.2006 Kienzle H40V1P/PRO



- Stationary memory and statistic memory are cyclically overwritten
- Automatically recognised results remain in the memory regardless of their severity

The more severe a result is the longer it remains in the memory

The evaluation and devaluation of the results prevents the memory being blocked by old data which was saved automatically and is no longer required

UD 538_001001 6.10.2006 Kienzle H40V1P/PRO



- ▶ Ignition on/off (200)
- ▶ Events (100)
- ▶ Impact (jolt) while stationary
- ▶ Activation of the operator button
- ▶ Loss of battery current
- ▶ Retrieval processes
- ▶ Error
- ▶ Deletion processes

The date, time and mileage are retained

Use of the statistical data is optional

UDS20_01/01 6.10.2000 Kienzle 1042V1P70



Technical Data

VDO KIENZLE

- ▶ Dimensions: 100x100x30 (mm)
- ▶ Weight: 175 g
- ▶ Voltage range: 10.5-30 V
- ▶ Power consumption: 3-40 mA
- ▶ Working temperature range: -40° bis +85° C
- ▶ Interfaces: 2 RS 232, signal transmitter, external key
- ▶ Memory volume: up to 12 stored records
- ▶ Storage forms: automatic, manual, external
- ▶ Duration of recording: each approx. 45 s + 100 m
- ▶ Resolution: 16/32/64/256 Hz
- ▶ Measurement range: +/- 500 m/s², > 250 km/h

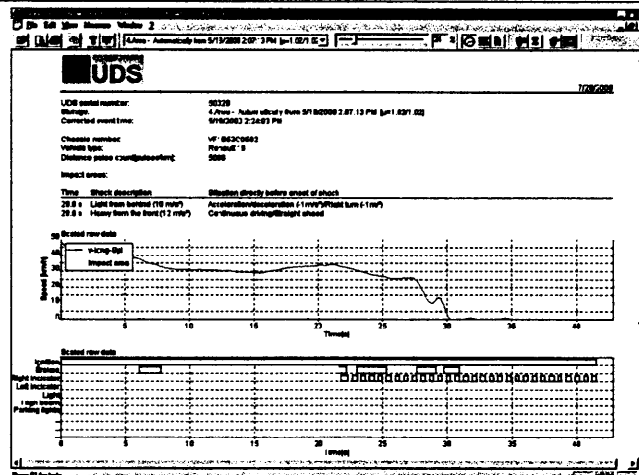
UDS20_01/01 6.10.2000 Kienzle 1042V1P70



Fleet Software

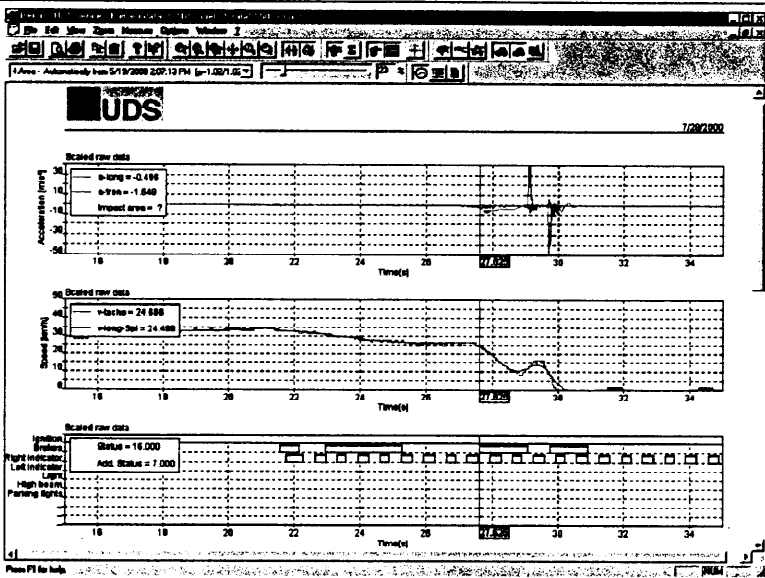
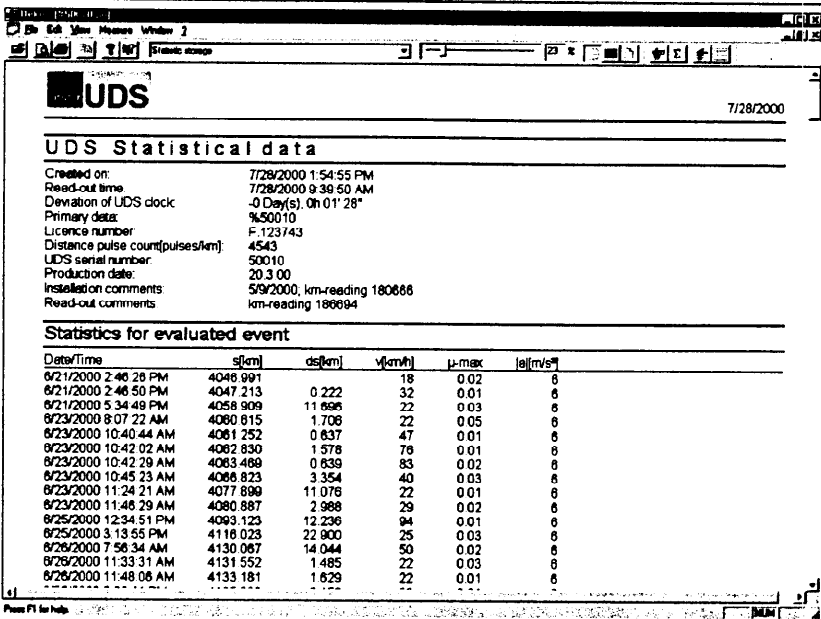
VDO KIENZLE

UDSshow



UDS20_01/01 6.10.2000 Kienzle 1042V1P70

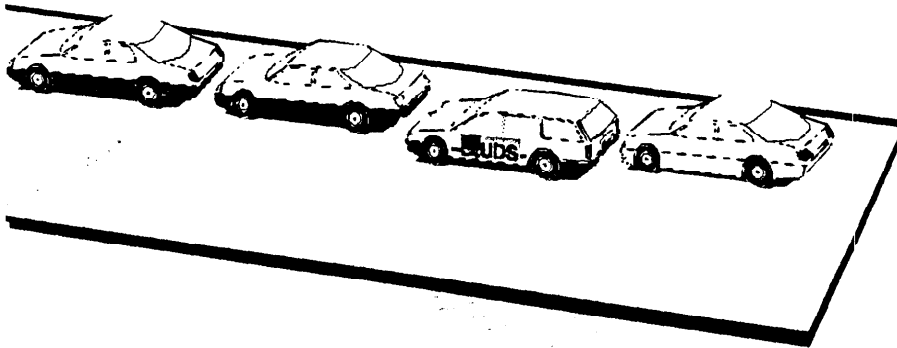




Example serial collision

VDO KIENZLE

Accident Situation



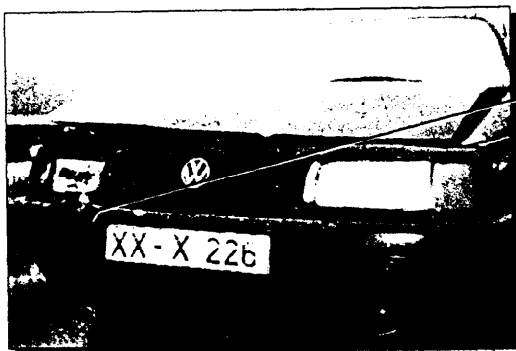
UD520_001001 6.10.2000 Kall K43V1/PRO



Serial Collision Example

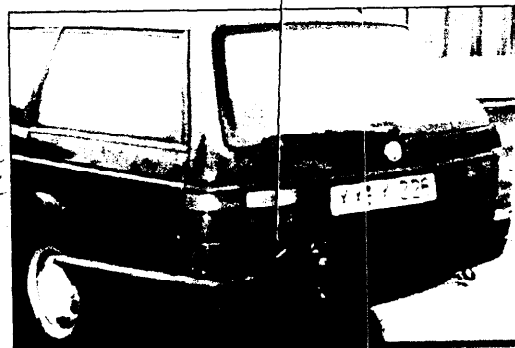
VDO KIENZLE

Damages

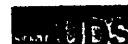


◆ Front-end damage

◆ Rear-end damage



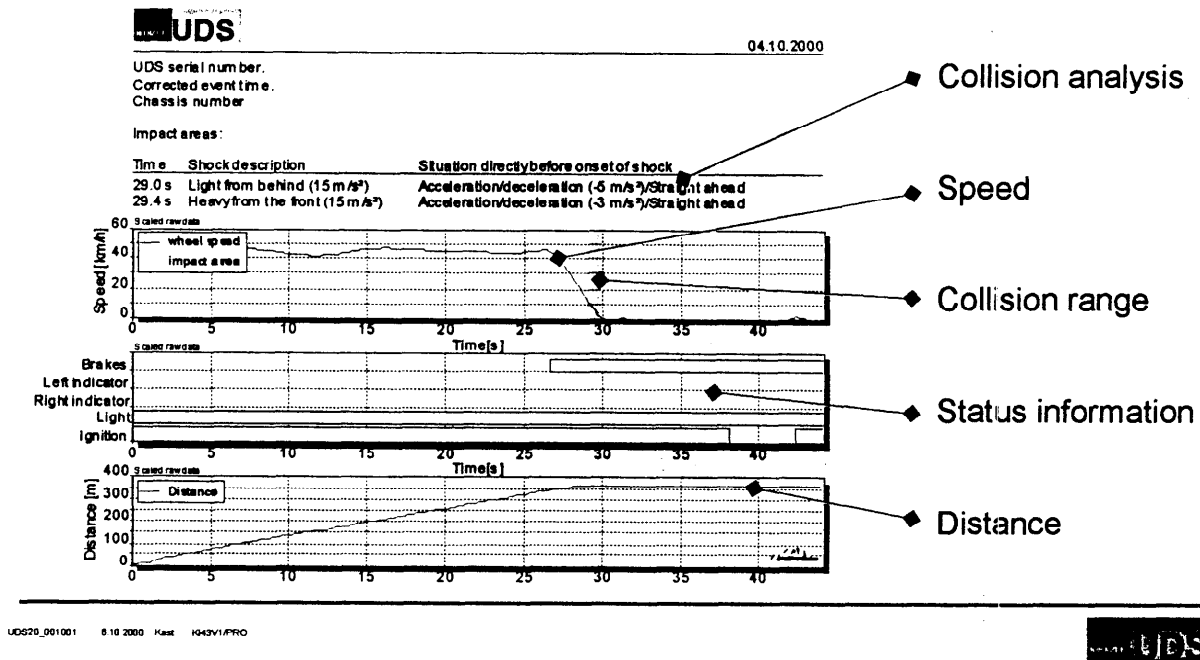
UD520_001001 6.10.2000 Kall K43V1/PRO



Serial Collision Example

VDO KIENZLE

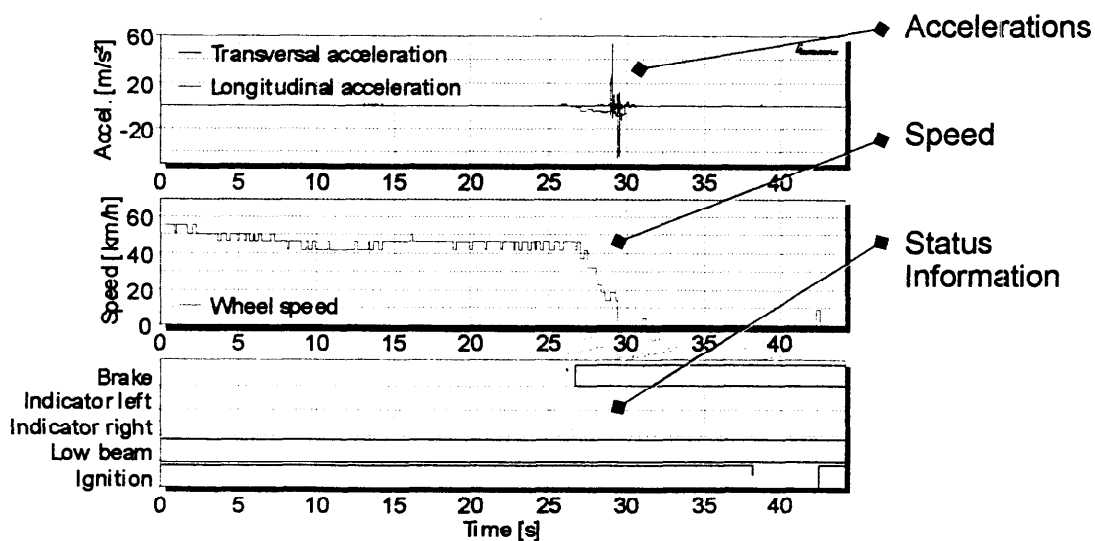
Overview (Immediate Information)



Example serial collision

VDO KIENZLE

Overview ("Raw data")



Who's looking out for you, Drive Cam

Who's looking out for You?TM



**Digital Video
Black Box Event
Recording Systems**



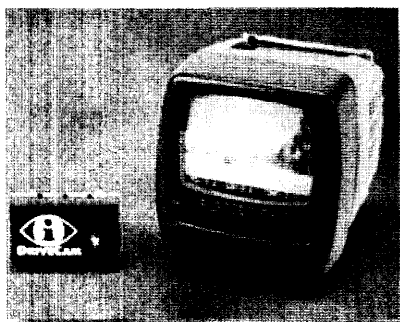
What is DriveCam?

DriveCam is a digital video black box recorder that is an effective tool to reduce your fleet operating and liability costs, while preserving property and improving driver safety. DriveCam continuously records video, audio, and four directions of G-forces into a looping digital memory.

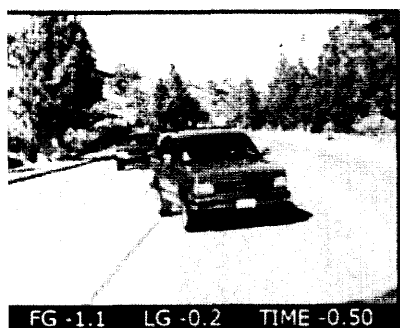
DriveCam automatically records everything that the driver could see, hear, and feel (G-forces) in the 20 second period prior to, during, and after a crash or near miss event. The entire unit is fully self contained in a tiny, rugged black box and installs unobtrusively behind the rear view mirror. The wide angle camera provides the approximate field of view of the driver.



DriveCam installs simply and unobtrusively behind the rearview mirror. DriveCam is watching out the front windshield every mile you travel.



DriveCam can be replayed at any location with a TV, and may be recorded to videotape. DriveCam has the same familiar buttons as a VCR.



When it comes to the crunch, DriveCam delivers a crisp, clear video, audio, and G-Force replay before, during, and after the incident. DriveCam gives you the full picture.

DriveCam automatically records near-misses or erratic driving habits such as hard braking, acceleration and harsh cornering by sensing excessive G-forces. Identifying these high risk driving habits enables fleet managers to use the video footage for employee training and preventative education to proactively prevent crashes while protecting property and lives.

DriveCam may also be triggered manually by pressing a button to capture any event of interest such as robbery, safety threat, or serious road rage.

No special technical knowledge is required to operate DriveCam. It has the same familiar 'Rewind, Play, Fast-Forward' controls as a VCR and replays on a standard television. When you press the play button, you will see a replay of the 20 second period before, during, and after the recorded event. DriveCam virtually puts you in the drivers seat at the time of the incident. On replay, you experience the same information that the driver had, in order to make his driving decisions. No expert interpretation is required as the video replay is easily understood by anyone, since it is from a human perspective.

A fleet manager may plug an inexpensive portable battery powered TV into DriveCam at any time or place to replay events. This may be done at the scene of the crash or at the depot. DriveCam may also be removed from the vehicle and replayed indoors. DriveCam's replay can be recorded directly onto videotape for long-term storage.

DriveCam is completely digital, with no maintenance required, and has no moving parts to wear out. There are no videotapes to change or rewind.



What's in it for the Driver?

Traditionally, when a fleet driver is involved in a crash, they may be put on probation, suspension, or administrative work while the crash investigation is pending. If suspended, they will lose their income during the investigation. If it is determined that the fleet driver was responsible (Either correctly or incorrectly determined), they may be terminated or no longer allowed to drive. Their driving record and insurance rating would also be adversely affected, along with their income.

Prior to DriveCam, crash investigators based their determination of responsibility on 'educated best guesses' derived from human witnesses, skid marks, and vehicle damage. All of these methods are prone to wide interpretation or variability. Human eyewitness testimonies are notoriously unreliable. Due to the rapid and shocking nature of witnessing crashes, two honest individuals often give conflicting testimonies.

Having the hard, clear **FACTS**, being able to **SEE** exactly what happened will prevent innocent drivers from being incorrectly blamed. DriveCam can exonerate and protect the jobs and records of good drivers who would have been otherwise incorrectly accused of being responsible for crashes.

DriveCam improves transportation safety for drivers by facilitating better driver training and education, which aids in reducing the frequency and severity of crashes. DriveCam promotes conscientious driving.

How can DriveCam Reduce My Fleet Operating Costs?

DriveCam is designed to actively reduce the largest unnecessary fleet operational costs. Fraudulent claims, staged crashes, or incorrect blame for crashes can be extremely costly to companies when lawsuits and large payouts are involved. Unfortunately, it is often assumed that companies have 'deep pockets', and they often end up paying. It is not uncommon to hear of a company going out of business from a single large lawsuit.

Staged crashes are common. According the National Insurance Crime Bureau (NICB) 17-20% of insurance payouts go towards paying fraudulent or exaggerated claims.



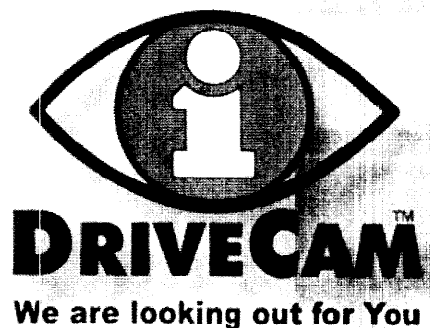
DriveCam is rugged, compact and fully self contained. Installation is very simple.



Be prepared for the unexpected. DriveCam can be triggered automatically or manually to record events of interest **after** they have occurred.



DriveCam records from a human perspective - everything the driver could see, hear and feel. The video replay is easily understood by anyone, without the need for expert interpretation or technical knowledge.



What you don't
know CAN hurt you!



How Can DriveCam Reduce My Fleet's Operating Costs?

Numerous studies in Europe by VDO-Mannesmann have consistently shown a **20-30%** reduction in crashes in vehicles fitted with black box recorders. Drivers are aware that they are being held accountable, and correspondingly drive more responsibly. Damage reductions alone could pay for DriveCam in a short period of time. Many insurance companies will give rate discounts for black box or video recording systems.

DriveCam can prevent your company from being incorrectly blamed for crashes.

DriveCam's video replay can clearly show that the traffic light was green, and the driver's position in the lane. The G-force readings show braking, cornering, evasive maneuvers, and the magnitude of any impacts. The video replay is very simple for anyone to understand and does not require expert interpretation. The replay shows the incontrovertible facts in a time sequential manner. The evidence is more powerful than human eyewitness testimonies - which may be distorted. DriveCam can pay for itself by saving on insurance rates and deductible payments due to incorrect blame.

DriveCam is designed to be a crash prevention tool as well as a legal defense tool. DriveCam can be set to identify and record erratic driving or 'near-miss' events such as hard cornering, acceleration, or hard braking. All of these events are 'high risk' styles of driving and indicate either reckless, erratic driving, or inattentiveness. This harsh style of driving increases fuel consumption, wear and tear, freight damage, and greatly increases the risk of being in a crash. DriveCam allows fleet managers to identify habitually higher risk drivers to address their ongoing risk to the company.

There are Many Ways that DriveCam Reduces Fleet Operating Costs:

- Lower fleet risk of liability in crashes.
- Eliminate fraudulent claims and identify staged accidents.
- Reduce vehicle wear and tear by encouraging smoother, safer driving.
- Reduce crashes and repair costs by promoting safe driving due to greater accountability.
- Use recordings for employee training and proactive crash prevention education.
- Enable knowledgeable defense of lawsuits when your driver is at fault.
- Identify erratic drivers - reduce ongoing risk to the company.
- Record criminal events such as robbery or serious road rage.
- Reduce damage to fragile freight caused by harsh driving.
- Improve employee moral by preventing incorrect blame.
- Eliminate unnecessary payout of deductibles.
- Reduce insurance premium rates through discounts for recording technology.



DriveCam Video Systems
9550 Ridgehaven Court
Suite A
San Diego, CA 92123 USA

Phone: (858) 430-4000
Fax: (858) 430-4001
Email: 'info@drivecam.com'
Web: 'www.drivecam.com'

Committed to Transportation Safety

DriveCam Speeds Processing and Reduces Costs of Insurance Claims

- Video event recording system helps identify fault and promote safe driving -

SAN DIEGO, Calif. – January 19, 2001 – DriveCam Video Systems, an innovator in vehicle safety systems, today announced that the company's DriveCam video event recorder has been proven to reduce the administrative and investigative costs in processing insurance claims for fleet operators. A component of the company's complete driver safety program, DriveCam is a palm-sized video recorder mounted behind a vehicle's rearview mirror that captures everything a driver sees and hears in the 20 seconds before, during and after an accident. The unit's wide-angle camera is triggered by G-forces caused by unsafe driving or an accident, referred to as an "event."

DriveCam's digital recording allows police and insurance investigators to easily view an event on a TV, VCR or personal computer. Seeing and hearing an event just as the driver did provides them with information critical to determining fault. DriveCam's event recordings are being used to dramatically reduce the time required to process insurance claims, thus lowering costs for insurance companies and the fleets they insure.

Cloud 9 Shuttle of San Diego has used the DriveCam event recordings to settle insurance claims, including a multiple vehicle accident. In several cases, the Cloud 9 van was first accused of causing the accident. However, the DriveCam video clearly showed that another vehicle was at fault. Cloud 9's insurance claims representative used the video and amended police reports to quickly negotiate the claim.

"Settling these claims without the DriveCam recording would have taken months and would have resulted in our insurance carrier making payments for the other vehicles," said Mike Forbush, vice president of operations for Cloud 9 Shuttle. "With just one driver's word against another, the insurance carrier usually pays at least 50 percent of the damage. In a multiple vehicle collision, that can include every vehicle that was damaged and any bodily injury. With the DriveCam recording, our carrier was able to settle these claim in days, without making a payment."

In addition to lowering claims processing costs, DriveCam has the potential to significantly lower the amount of fraudulent claims. According to an Insurance Information Institute report, property/casualty insurance fraud totaled an estimated \$24 billion in 1999, or about 10 percent of claims. The report states that fraud is more prevalent in auto insurance, where the large number of relatively small claims that must be processed by insurance companies within a short period of time provide opportunities for fabricating medical and auto repair bills or auto theft reports.

“One of the problems in reducing fraud is that it is difficult to determine who is at fault,” said Ed Andrew, president of DriveCam Video. “Our DriveCam video event recording system captures the human experience and provides an objective view of what occurred that is indisputable.”

The DriveCam video event recorder was developed to promote driving safety, security and accountability. DriveCam is used by fleets as a part of a complete Driving Feedback System that provides drivers and their managers with accurate, unbiased feedback on their driving performance. The program includes a manager’s guide, driver guide, videotape and Event Manager software for logging and tracking vehicle events. Fleets using this program have experienced a reduction in accidents due to increased driver awareness and training.

About DriveCam Video Systems

DriveCam Video Systems is an innovator in the development of vehicle safety products that improve driver and traffic safety. Based in San Diego, the company’s DriveCam video event recorder is part of a complete Driving Feedback System used by vehicle fleets to promote safety and reduce accidents. Additional information is available at www.drivecam.com.

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Media Contacts:

Ed Andrew
DriveCam Video Systems
858-430-4000, ext. 4003
eandrew@drivecam.com

Valerie Chereskin
PR Consultant
(760) 942-3116
vcmail@ix.netcom.com

ACE USA
Claims
55 Haddonfield Rd.
Suite 210
Cherry Hill, NJ 08002

(856)755-6301 tel/
(856)755-6088 fax
www.ace-ina.com

Tami Millaway
Claims Representative

December 20, 2000

Mr. Ed Andrew, President
DriveCam Video Systems
9550-A Ridgehaven Ct.
San Diego, CA 92123

Dear Mr. Andrew:

Recently, a fleet vehicle insured by our company and protected by one of your DriveCam units was involved in a 3-vehicle collision. There was conflicting testimony about who was responsible for causing the collision. The investigating law enforcement officer filed his initial report indicating our insured's driver at fault. After reviewing the DriveCam recording, the officer realized that one of the other drivers had given false information and was responsible for causing the collision. The police officer then filed an amended report exonerating our insured and their driver. Our insured provided me with a copy of the DriveCam recording, which I used in negotiating this claim.

Settling this claim without the DriveCam recording would have taken me several months and surely would have cost us a large payout to the other vehicles. By having irrefutable proof that our insured driver was not negligent in any way, I saved time and expense. With the DriveCam recording we were able to settle this claim in several days with no expense and without making a payment.

I also just received another claim file wherein the other party contended that our insured vehicle rear-ended his vehicle. The damage to both vehicles certainly would have supported his contentions. However, in viewing the DriveCam recording of the accident, it was proven that the other party changed lanes directly into our insured's vehicle, thus causing the accident. The other party's claim has been denied, and our insured is now going through the other insurance carrier for the damages sustained to their vehicle. Again, the outcome of this case would have been very different had it not been for the DriveCam system.

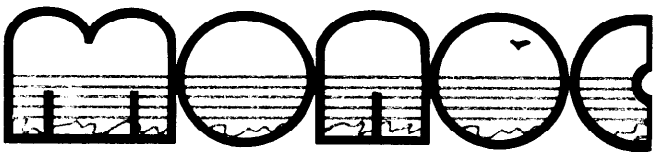
I wanted to let you know that your DriveCam system is fabulous! It has protected and benefited our insured, their drivers and us.

Good luck in the future!

Very truly yours,


Tami Millaway
Claims Representative

One of the ACE Group of Insurance & Reinsurance Companies



MONMOUTH-OCEAN HOSPITAL SERVICE CORPORATION

151 INDUSTRIAL WAY EAST • BUILDING C • EATONTOWN, NEW JERSEY 07724

PHONE: 732-578-9800 • FAX: 732-578-9822 • INTERNET: WWW.MONOC.ORG

A Cooperative Venture to Improve Health Care and Reduce Costs

July 21, 2000

Brent Haywood
Drive Cam Inc.
5985 Dandridge Ln.
#110
San Diego, California 92115

Dear Brent:

I wanted to pass along to you our positive experiences with your product. When we first installed the cameras into our ambulances, our staff thought it was a way management would be watching them. They soon realized that unless they drove our vehicles inappropriately, we were not watching them. In the beginning, we had some employees attempt to trigger the camera by driving the vehicle erratically. When those employees were brought into my office to review the video, they quickly realized how foolish their actions were. Any future incidents were followed up with disciplinary action. Suddenly, there were no more incidents of abuse.

Having the cameras in the vehicles makes our staff drive the vehicles as they were intended to be driven. This saves on fuel, brakes and general wear and tear expenses. I must tell you that the camera helped us investigate a motor vehicle accident, which occurred while one of our ambulances was responding to an emergency call. Our unit approached an intersection with lights and sirens activated. The unit came to a complete stop because the light was red. After all vehicles yielded to our ambulance, they proceeded through the intersection and were struck by a vehicle that passed the stopped cars. When the police arrived, the gentleman who hit our ambulance told them that we did not have our lights and sirens on and that we ran the red light. The police officer came to our office and reviewed the video, which showed the ambulance making a complete stop at the red light and proceeding cautiously through the intersection. He was also able to hear the sirens blaring and the lights reflecting off the hood of the ambulance. The driver of the car that struck our ambulance was issued a failure to yield to an emergency vehicle as well as inattentive driving and passing on the right.

We will be budgeting for additional units for next years capital budget. I am certain they will provide similar positive experiences. Thanks again!

Sincerely,

Jeff Behm
Director of Operations

MEMBERS

Bayshore Community Hospital • CentraState Medical Center • Community Medical Center • Jersey Shore Medical Center • Kimball Medical Center
Medical Center of Ocean County • Monmouth Medical Center • Riverview Medical Center • Southern Ocean County Hospital



TRANSPORTATION SERVICES INC.

P.O. BOX 2574 N.BABYLON, NY 11703 • (516) 243-3800 OR (800) 894-STAR

Mr. Brent Heywood
DriveCam Video Systems
3505 Camino Del Rio South
Suite 350
San Diego, California, 92108

November 29, 2000

Dear Brent,

I wanted to write to share some exciting news with you. After 2 months of having the DriveCam Video Cameras in our vehicles, the results have surpassed our wildest expectations. Our rate of collisions have decreased dramatically. We were averaging 1 at fault collisions per week with our fleet of 65 vehicles. I can honestly say that we have not had an at-fault collision in the past 6 weeks. The mere presence of the cameras in the vehicles has forced our Drivers to operate the vehicles in a safer manner. We also expect to realize maintenance savings as well. We haven't had to send a vehicle for alignment in the past month. I know that I was a skeptic, and now you have convinced me.
THE SYSTEM WORKS!!

Please feel free to use my company at any time as a reference. I have spent 35 years in this business and I have never seen a product work this well! My congratulations and my THANK YOUs!

Sincerely,

Steven F. Paul
President and CEO
Tran-Star Executive

"The Finest in Ground Transportation Services"